1. A camera is accidentally dropped from the edge of a cliff and 6.0 s later reaches the bottom

a. how fast was it going just before it hit?

**Vf = v i + at**

**0 + 9.8 m/s2 (6.0 s) = 59 m/s**

b. how high is the cliff?

**d = vi t + 1/2 at 2  
0(6.0) + 1/2 (9.8 m/s2) (6.0 s) 2**

**1.8 x 10 2 m**

2. a platform diver jumps vertically with a velocity of 4.2 m/s. 2.5 s later the diver enters the water. How high is the platform above the water?

**d = vi t + 1/2 a t2**

**= (4.2 m/s) (2.5 s) + 1/2 (-9.8 m/s 2) (2.5 s)2**

**= -20 m**

**Diver is 20 meters below starting point or platform is 20 m high**

3, Light from the sun reaches Earth in 8.3 minutes. The velocity of light is 3.00 X 10 8 m/s. How far is earth from the sun?

**time = 8.3 min = 498 = 5.0 x 10 2 s**

**v=d/t**

**3.00 X 10 8 m/s) (5.0 X 10 2 m/s**

**1.5 x 10 11 mm**

4. Ann is driving down a street in a car at 55 km/h. Suddenly a child runs into the street. If it takes Ann 0.75 s to react and apply the brakes, how many meters will she have moved before she begins to slow down?

**v=d/t**

**55 km/h) (1000 m/km)**

**(3600 s/h =11 m**

5. Bob walks 80 m and then he walks 125 m

a. What is Bob's displacement if he walks east both times? **205 m**

b. what is bob's displacement if he walks east then west? **-45 m**

c. what distance does Bob walk in each case? **205 m**

6. 0.30 s after seeing a puff of smoke rise from the starter's pistol, the sound of the firing of the pistol is heard by the track timer 100 m away. What is the velocity of sound?

**v=d/t 100/0.30 = 330 m/s**

7. a bullet is fired with a speed of 720.0 m/s

a. what time is required for the bullet to strike a target at a position of + 324 m?

**t=d/v = 324m/720.0 m/s = .450 s**

b. what is the velocity in km/h?

**v = 720 m/s) 3600 s/h)**

**1000 m/km = 2592 km/hr**

1. A camera is accidentally dropped from the edge of a cliff and 6.0 s later reaches the bottom

a. how fast was it going just before it hit?

b. how high is the cliff?

2. a platform diver jumps vertically with a velocity of 4.2 m/s. 2.5 s later the diver enters the water. How high is the platform above the water?

3, Light from the sun reaches Earth in 8.3 minutes. The velocity of light is 3.00 X 10 8 m/s. How far is earth from the sun?

4. Ann is driving down a street in a car at 55 km/h. Suddenly a child runs into the street. If it takes Ann 0.75 s to react and apply the brakes, how many meters will she have moved before she begins to slow down?

5. Bob walks 80 m and then he walks 125 m

a. What is Bob's displacement if he walks east both times?

b. what is bob's displacement if he walks east then west?

c. what distance does Bob walk in each case?

6. 0.30 s after seeing a puff of smoke rise from the starter's pistol, the sound of the firing of the pistol is heard by the track timer 100 m away. What is the velocity of sound?

7. a bullet is fired with a speed of 720.0 m/s

a. what time is required for the bullet to strike a target at a position of + 324 m?

b. what is the velocity in km/h?